UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Clinical Research and Public Health

2627-4-H4102D059

Aims

The integrated course in Clinical Research and Public Health aims to provide students with a comprehensive understanding of the principles, methods, and applications of clinical research, public health, epidemiology, preventive medicine, and biostatistics. The course is designed to develop students' ability to describe and interpret the distribution and determinants of health and disease in populations, understand the design and interpretation of epidemiological and clinical studies, and critically evaluate prevention, health promotion, and clinical research interventions.

Expected learning outcomes according to the Dublin Descriptors

Knowledge and understanding
By the end of the course, students will know the main concepts of public health, preventive medicine, descriptive and analytical epidemiology, biostatistics, and clinical research, including the principles of surveillance, disease prevention, intervention evaluation, survival analysis, and causal inference in observational studies.

Applying knowledge and understanding
Students will be able to apply key epidemiological and biostatistical methods to describe population health, identify risk factors, interpret measures of disease frequency and association, evaluate public health interventions, and understand the results of clinical and observational studies.

Making judgements
Students will be able to critically interpret epidemiological data, scientific evidence, and clinical research findings, recognizing methodological strengths and limitations, potential sources of bias, and implications for clinical practice and public health.

Communication skills
Students will be able to communicate concepts, data, and findings related to clinical research and public health clearly and appropriately, using correct epidemiological and methodological terminology.

Learning skills
Students will acquire the methodological foundations needed to independently further develop their knowledge of epidemiology, prevention, public health, and clinical research, including through the critical reading of scientific literature.

Contents

The course explores key concepts in public health, epidemiology, preventive medicine, biostatistics, and clinical research. Overall, the course provides an understanding of the distribution and determinants of health and disease in populations and of the analytical methods used to describe population health. It covers descriptive and analytical epidemiology, the application of epidemiological methods to investigate outbreaks, identify risk factors, and evaluate interventions, as well as the principles of health promotion and disease prevention. The course also provides the principles of clinical research, including basic concepts of survival analysis and causal inference methods to assess the association between exposures and outcomes in observational studies.

Detailed program

The detailed program is provided in the syllabus of each teaching unit:
– Public Health
– Preventive Medicine
– Clinical Research
– Occupational Medicine

Prerequisites

Basic knowledge of descriptive and inferential statistics is required for the Clinical Research teaching unit.

Teaching form

The course will be taught in English. A blended teaching approach will be used, including lectures and interactive activities, as specified in the syllabus of each teaching unit.

Textbook and teaching resource

Slides, scientific papers, and other teaching resources will be made available on the e-learning platform.

Semester

Second semester.

Assessment method

The assessment will consist of a written exam including multiple-choice questions and exercises, aimed at extensively evaluating students' knowledge of the course program and their ability to apply key methodological and epidemiological concepts.

Office hours

Upon request by e-mail.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING